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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/574,848

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EXAMINER

SADIO, INSA

ART UNIT

PAPER NUMBER

2629

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PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/574,848	<b>Applicant(s)</b> SHIOZAKI ET AL.	
	<b>Examiner</b> INSA SADIO	<b>Art Unit</b> 2629	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 16 January 2009.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-12 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-12 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)          | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____                                      |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)          | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____  | 6) <input type="checkbox"/> Other: _____                          |

## DETAILED ACTION

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

1. **Claims 1, 4, 5, 9, 10-12** are rejected under 35 U.S.C. 103(a) as being unpatentable over Kanda et al. (US Publication number 2002/0122018), hereinafter referenced as Kanda.

**As of claim 1**, Kanda discloses a Method of adjusting characteristics of electron source, method of manufacturing electron emission device. Further, Kanda discloses wherein said

A FED control circuit (see para [0121], Fig. 4 [309]) for controlling an electrode voltage of a field emission display which includes a plurality of cathode electrodes (see para 0025 [emitter cones]) and gate electrodes (see para 0218 [gate electrodes]), both of which being arranged in a lattice shape (see para [0121], Fig. 1); emitters (see para 0121 [fluorescent members]), each of which being arranged at an intersection point of said cathode electrode and said gate electrode (see para [0107]); fluorescent materials (Fig. 1 [108]) and anode electrodes (see para 0121 [fluorescent body]), both of which being disposed opposing to said cathode electrode (see Fig. 1), said FED control circuit

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comprising: a cathode voltage control unit for controlling said cathode electrode so that electron emission from said cathode electrode is uniform (see para [0139], Fig. 4 [309]).

Kanda also teaches typically, **Reference numeral 310 denotes a switch matrix control circuit, which outputs switch switching signals Tx and Ty to control selection of switches of the switch matrix 302 and 303 and thereby selects the surface conduction type emitting device to which the pulse voltages are applied** (see para [0025], [0218], Fig. 4 [310]).

Although Kanda does not explicitly recite wherein said **and a gate electrode driving unit for changing a gate electrode voltage in response to a video signal**, however, it is obvious to one ordinary skill in the art to recognize that Kanda's **Reference numeral 310 denotes a switch matrix control circuit, which outputs switch switching signals Tx and Ty to control selection of switches of the switch matrix 302 and 303 and thereby selects the surface conduction type emitting device to which the pulse voltages are applied** is equivalent to applicant's claimed invention of **a gate electrode driving unit** (see [0218], fig4 [303]) **for changing a gate electrode voltage in response to a video signal**.

**As of claim 4**, Kanda teaches the limitations of claim 1 above . Further, Kanda discloses wherein said gate electrode driving unit performs ON/OFF control of said gate electrode by complementary connection (see para 0121 [switch switching signals Tx and Ty ...]).

**As of claim 5**, Kanda teaches the limitations of claim 1 above. Further, Kanda discloses wherein said further comprising a characteristics correction unit which

continuously corrects variation for every said gate electrode by a data table (see para [0121] (look up table)).

**As of claim 7**, Kanda teaches the limitations of claim 3 above. Further, Kanda discloses wherein said gate electrode driving unit performs ON/OFF control of said gate electrode by complementary connection (see para 0121 [switch switching signals Tx and Ty ...]).

**As of claim 9**, Kanda teaches the limitations of claim 3 above. Further, Kanda discloses wherein said further comprising a characteristics correction unit which continuously corrects variation for every said gate electrode by a data table (see para [0121] (look up table)).

**As of claim 10**, Kanda teaches the limitations of claim 4 above. Further, Kanda discloses wherein said further comprising a characteristics correction unit which continuously corrects variation for every said gate electrode by a data table (see para [0121] (look up table)).

**As of claim 11**, Kanda teaches the limitations of claim 6 above. Further, Kanda discloses wherein said further comprising a characteristics correction unit which continuously corrects variation for every said gate electrode by a data table (see para [0121] (look up table)).

**As of claim 12**, Kanda teaches the limitations of claim 7 above. Further, Kanda discloses wherein said further comprising a characteristics correction unit which continuously corrects variation for every said gate electrode by a data table (see para [0121] (look up table)).

2. **Claims 2, 3, 6, 8** are rejected under 35 U.S.C. 103(a) as being unpatentable over Kanda in view of Konuma (US Patent number 6,465,966).

**As of claim 2**, Kanda teaches the limitations of claim 1 above.

Kanda does not teach wherein said **cathode voltage control unit charges a capacitor by a constant current and determines a cathode voltage of each pixel by controlling charging time**.

Konuma teaches wherein said **cathode voltage control unit charges a memory by a constant current and determines a cathode voltage of each pixel by controlling charging time** (col.3 L18-32, col. 17 line 17-64, [Konuma's memory is equivalent to applicant's claimed capacitor]).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to combine Kanda's Method of adjusting characteristics of electron source with the teaching of Konuma's memory for storing a current value, for the purpose of controlling the luminescence of the device.

**As of claim 3**, Kanda teaches the limitations of claim 1 above.

Kanda does not teach wherein said **charging time of said capacitor is controlled by pulse width**.

Konuma teaches wherein said **charging time of said capacitor is controlled by pulse width** (col. 15 line 6-24, col 5 line 22-27, claim 1, 10 [equivalent to applicant's claimed invention]).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made combine Kanda's Method of adjusting characteristics of electron source with the teaching of Konuma's charging time of said capacitor is controlled by pulse width, for the purpose of controlling the luminescence of the device.

**As of claim 6**, Kanda teaches the limitations of claim 2 above. Further, Kanda discloses wherein said gate electrode driving unit performs ON/OFF control of said gate electrode by complementary connection (see para 0121 [switch switching signals Tx and Ty ...]).

**As of claim 8**, Kanda teaches the limitations of claim 2 above. Further, Kanda discloses wherein said further comprising a characteristics correction unit which continuously corrects variation for every said gate electrode by a data table (see para [0121] (look up table)).

### ***Response to Arguments***

3. Applicant's arguments filed 01/16/2009 have been fully considered but they are not persuasive. On page 2 of Applicant's argument, Applicant argues that

**Kanda et al. does not specifically recite "a gate electrode driving unit for changing a gate electrode voltage in"**. The examiner respectfully disagrees. Kanda et al clearly teaches applicant's claimed invention **"a gate electrode driving unit for changing a gate electrode voltage in"** (see Kanda et al. [0025], [0218]).

On page 2 of Applicant's argument, Applicant argues that **Kanda et al. does not make any reference to controlling the cathode electrode so that its emissions are**

**uniform.** The examiner respectfully disagrees. Kanda also teaches the recited claim limitation [0139].

On page 4 of Applicant's argument, Applicant argues that **the term "capacitor" does not appear once in the specification or claims of Konuma.** The type of memory disclosed by Konuma inherently functions the same as a capacitors to store current values. Please see Konuma col. 3 L18-32, col. 17 line 17-64.

### ***Conclusion***

4. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to INSA SADIO whose telephone number is (571)270-5580. The examiner can normally be reached on MONDAY through FRIDAY 8am to 5pm.



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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Amare Mengistu can be reached on 571-272-7674. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

INSA SADIO  
Examiner  
Art Unit 2629

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Examiner, Art Unit 2629

/Amare Mengistu/

Supervisory Patent Examiner, Art Unit 2629